

ABSTRACT

Representative embodiments provide for a fuel activation device including a fuel storage chamber configured to store a plurality of fuel pellets arranged as a stack. A fuel dispensing device is configured to transport a fuel pellet to a fuel activation chamber. A spring is configured to advance the fuel pellets toward the fuel dispensing device as one or more fuel pellets are removed from the stack. A fuel initiator is configured to activate a release of hydrogen gas from the transported fuel pellet. The fuel activation device is configured to provide the hydrogen gas to a fuel cell through a gas vent. A method is provided including providing a plurality of fuel pellets arranged as a spring-loaded stack, transporting a fuel pellet from the stack, activating a release of hydrogen gas from the transported fuel pellet, and providing the hydrogen gas to a fuel cell.